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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,759	03/15/2004	Sankar Dasgupta	5088-22	1743

1059 7590 11/15/2007

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EXAMINER

WILLS, MONIQUE M

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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11/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/799,759

Applicant(s)

DASGUPTA ET AL.

Examiner

Monique M. Wills

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application..
- 4a) Of the above claim(s) 14-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 14-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected rechargeable lithium battery, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on September 4, 2007.

Applicant's election with traverse in the reply is acknowledged. The traversal is on the ground(s) that the combination and subcombination are not so independent and distinct that they cannot be examined in the application. Specifically, the rechargeable lithium battery includes electrolyte of claim 1. This is not found persuasive because the lithium battery may include different electrolytes such as gel or liquid electrolytes and does not require the specific composite electrolyte to function.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

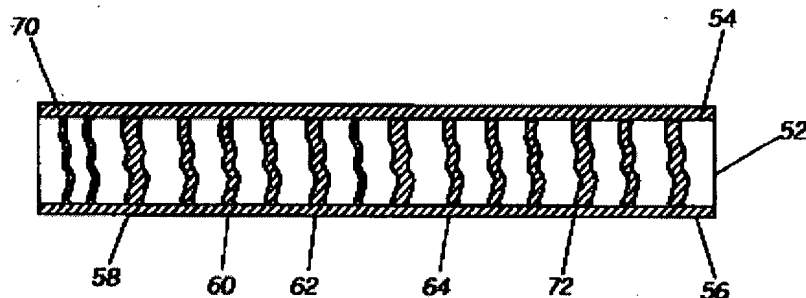
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subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oliver et al. U.S. Pat. 5,688,293 in view of Ashida et al. U.S. Pat. 6,200,706 .

Oliver teaches a composite electrolyte for a rechargeable lithium battery comprising: an inert first porous, laminate layer of a first polymer (52), having a first multiplicity of pores include walls, and two major faces, and having an adherent, solid, second layer of a second polymer deposited on both major surfaces, the adherent solid second polymer. The reference teaches an absorbing layer (embracing the instant second polymer) that fills multiple pores of the first layer. See Figure 2, and paragraphs 11-12. The second polymer layer is polyvinlidene fluoride copolymer. See column 4, lines 20-25. The lithium compound having dissociable lithium ions is lithium borhexafluoride or lithium perchlorate mixtures. See column 3, lines 45-60. The organic liquid electrolyte is ethylene carbonate or propylene carbonate. See column 3, lines 45-60.

FIG.2



Oliver does not expressly disclose the first multiplicity of pores unfilled, wherein said unfilled pores are impregnated with an organic liquid electrolyte (claim 1); a second

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multiplicity of porous sub-layers having different melting temperatures (claim 1); the method of preparation including: electrophoresis, vapor deposition, coating of a suspension of the suspension of the second polymer, heat-compression coating with a lithium compound containing binder compound, and immersion of the inert first porous laminate layer (claim 11).

Ashida teaches that it is well known in the art to employ multi-layer separators of different melting temperatures to prevent ignition and short-circuiting of batteries. See column 1, lines 20-45.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ multiple sub-layers of polymer with different melting temperatures as taught by Ashida, in the battery of Oliver in order to prevent ignition and short-circuiting of lithium batteries.

With respect to unfilled pores, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ an electrolyte in a portion of unfilled pores in the first layer, in order to increase ion transfer between the electrodes. The skilled artisan recognizes that the ion conductivity of the electrolyte directly effects power generation of the electrochemical cell.

With respect to the method of claim 11, the limitations are process limitations in a product claim. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art,

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the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The limitations are met because the product is identical to the instant claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MW

11/10/07


PATRICK JOSEPH
SUPERVISORY PATENT EXAMINER